

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
22 April 2004 (22.04.2004)

PCT

(10) International Publication Number  
**WO 2004/032901 A1**

(51) International Patent Classification<sup>7</sup>: **A61K 9/14**, 9/16,  
C08J 3/215, C08L 5/00, 5/02

(21) International Application Number:  
PCT/GB2003/004463

(22) International Filing Date: 10 October 2003 (10.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/418,055 11 October 2002 (11.10.2002) US

(71) Applicant (for all designated States except US): **VECTURA LIMITED** [GB/GB]; 1 Prospect Place, Chippenham, Wiltshire SN14 6FH (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **TOBYN, Michael** [GB/GB]; 18 Queens Club Gardens, Trowbridge, Wiltshire BA14 9SS (GB). **STANIFORTH, John, Nicholas** [GB/GB]; High Trees, 170 Bloomfield Road, Bath, Avon BA2 2LL (GB). **CLINCH, Cheryl** [GB/GB]; 26 Leighton Road, Knowle, Bristol BS4 2LL (GB). **HEARN,**

**Matthew, Paul** [GB/GB]; 42 Somermead, Bedminster, Bristol BS4 2LL (GB). **WALSH, Dominic** [GB/GB]; Flat 4, Cumberland House, Norfolk Crescent, Bath, Avon BA1 2BG (GB). **HALL, Simon, Robert** [GB/GB]; 10 Orchid Close, Tiverton, Devon EX16 6SZ (GB).

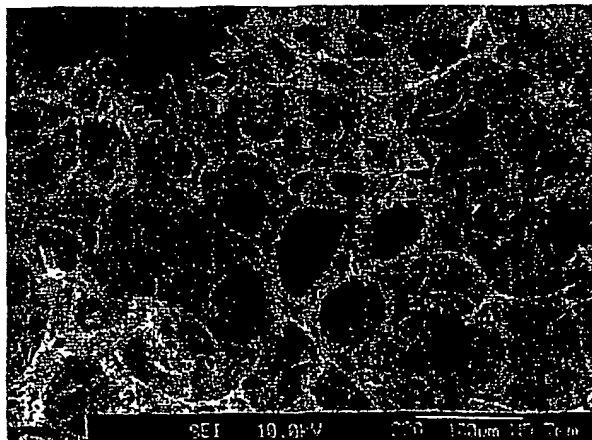
(74) Agents: **JUMP, Timothy et al.**; Venner, Shipley & Co., 20 Little Britain, London EC1A 7DH (GB).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: **PHARMACEUTICAL EXCIPIENTS COMPRISING INORGANIC PARTICLES IN ASSOCIATION WITH AN ORGANIC POLYMERIC MATERIAL AND FORMING A SOLID RETICULATED MATRIX, COMPOSITIONS, MANUFACTURING AND USE THEREOF**



(57) Abstract: A pharmaceutical excipient comprising a solid, reticulated matrix, wherein the matrix comprises an aggregation of inorganic particles in association with an organic polymeric material, defines a plurality of pores with a mean width in the range of about 0.01-500 m, and has a specific surface area of at least about 1 m<sup>2</sup>/g is described, as are products comprising such excipients, methods of making them and use thereof.

BEST AVAILABLE COPY

WO 2004/032901 A1



**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**BEST AVAILABLE COPY**